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(FILE 'HOME' ENTERED AT 16:09:17 ON 21 JUN 2001)

FILE 'REGISTRY' ENTERED AT 16:09:22 ON 21 JUN 2001

L1 48 (.4<C<.5 AND .5<MN<.8 AND P<.015 AND CU<.15 AND NI<.2 AND  
CR<.3

FILE 'HCA' ENTERED AT 16:10:43 ON 21 JUN 2001

L2 492 L1

L3 104623 (CARBON OR C) AND (MANGANESE OR MN) AND (IRON OR FE OR STEEL)

L4 84 L3 AND L2

FILE 'REGISTRY' ENTERED AT 16:13:16 ON 21 JUN 2001

L5 44720 SI<.14/MAC

FILE 'HCA' ENTERED AT 16:14:08 ON 21 JUN 2001

L6 41 L4 AND L5

AN 129:151620 HCA

TI Microalloyed high-strength **carbon steel** for hot forging without heat treatment

IN Takemoto, Satoshi; Inoue, Koichiro; Nakamura, Sadayuki

PA Daido Tokushuko K. K., Japan

SO Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 856590	A2	19980805	EP 1998-101543	19980129
	EP 856590	A3	19981021		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 10219389	A2	19980818	JP 1997-55371	19970204
	JP 10287952	A2	19981027	JP 1997-131542	19970416
PRAI	JP 1997-55371		19970204		
	JP 1997-131542		19970416		
AB	High-strength <b>steel</b> for hot forging contains C 0.30-0.60, Si 0.05-2.0, Mn 0.10-1.0, P 0.03-0.20, Cu 0.03-0.50, Ni 0.03-0.50, Cr 0.01-0.50, V 0.05-0.50, sol. Al 0.010-0.045, and N 0.005-0.025%, optionally with Pb .ltoreq.0.30, S .ltoreq.0.20, Te .ltoreq.0.30, Ca .ltoreq.0.01, and/or Bi .ltoreq.0.30% for improved machinability. The hot-forged <b>steel</b> parts show the Rockwell C-scale hardness of 20-35, and can be notched for the stress concn. factor .gtoreq.2.0 and broken in tension at the speed .gtoreq.0.5 mm/s to obtain 2 pieces having matched contact surfaces. The <b>steel</b> is suitable for hot forging of connecting rods for automotive engines. The typical <b>steel</b> for hot-forged rods having the hardness of 27.3 and tensile plastic elongation of 0.13% with fatigue strength of 471.8 MPa contains C 0.45, Si 0.25, Mn 0.25, P 0.10, Cu 0.05, Ni 0.08, Cr 0.10, V 0.25, sol. Al 0.027, and N 0.020%, and is optionally microalloyed with 0.1% S for improved machinability in hole drilling.				

AN 128:104826 HCA

TI Nonrefined **steels** for hot forging

IN Iwagasaki, Katsuhiro; Abe, Satoshi; Matsuzaki, Yoshitake

PA Kobe Steel, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	JP 09310152	A2	19971202	JP 1996-126152	19960521	
AB	The title <b>steels</b> contg. C 0.30-0.80, Si 0.1-2.5, Mn 0.30-2.0, Al 0.001-0.06, N 0.005-0.10, P 0-0.30, S 0-0.12, Cr 0-1.0, Cu 0-0.3, Ni 0-0.3, and optionally .gtoreq.1 selected from Pb >0 and .ltoreq.0.3, Zr >0 and .ltoreq.0.2, Ca >0 and .ltoreq.0.010, Te >0 and .ltoreq.0.10, Bi >0 and .ltoreq.0.1, and Ti >0 and .ltoreq.0.05 wt.% have tensile strength 600-900 N/mm <sup>2</sup> , and satisfy [Si% + 3.4Mn% + 19.5P% - 13.4S% + 2.7Cr% .gtoreq.3.5] and [C% + 1.1Mn% - 1.9S% + 1.5Cu% + 1.8Ni% + 0.6Cr% .ltoreq.2.6]. The <b>steel</b> compns. show high yield strength and excellent fatigue properties without expensive V additives and without carrying hardening and tempering after hot forging.					